REMARKS

Claims 1-3, 5-8, 36-38, and 40-42 remain in the referenced application. Claims 1 and 36 have been amended. Claims 4 and 39 have been canceled. Claims 43-46 are new.

Claims 1, 2, 5, 8, 36, 37, and 40 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over Hisada, et al. (U.S. Patent No. 6,190,557 – hereinafter referred to as "Hisada") in view of McGowan (U. S. Patent No. 6,562246 – hereinafter referred to as "McGowan"). Applicant respectfully disagrees with the Examiner regarding the above-recited rejection. The Examiner asserts that "Hisada discloses a method of cleansing a filter 1 including passing water from a water source through a filter producing filtered water (see lines 6-18 of col. 14), providing a source of purified water (e.g. filtered water from the permeate side of the reverse osmosis membrane (see Fig. 6 and lines 35-49 of col. 14), the purified water having a lower total dissolver solids reading than the water being filtered since a reverse osmosis filter can remove up to 99% dissolved minerals from water, and exposing the filter to the purified water (e.g. via backwashing as shown in Fig. 6 with permeate)." Applicant respectfully asserts that Hisada's invention is entitled, "SPIRAL WOUND TYPE MEMBRANE ELEMENT, RUNNING METHOD AND WASHING METHOD THEREOF," and therefore, Hisada must be teaching a purification membrane. Illustratively, the purification membrane is a reverse osmosis membrane. Applicant respectfully contends that the Examiner has inappropriately utilized the terms "filter" and Hisada's "spiral wound membrane element 1" interchangeably.

Applicant respectfully asserts that Applicant's invention is drawn to methods for cleansing a "filter" with a "purified" water source. "Filters" are commonly utilized in many technologies, and are capable of removing only suspended particles over a predetermined size, as filtering is a mechanical process, whereby the oversize suspended particles physically cannot

move through the filtering component. Accordingly, filters provide an inexpensive means of removing sediments and other suspended debris, however, the filters build up deposits over time, and must be cleaned or replaced. Filters do not remove the dissolved solids in a fluid, as this happens at the ionic level (magnitudes smaller than the smallest orifices of a filtering component).

Applicant's invention is drawn to cleansing a filter with "purified water." Applicant respectfully asserts that Applicant has defined "purified water" in Applicant's specification as, "water having a lower total dissolved solids reading than the water being filtered, preferably with a total dissolved solids reading fifty percent lower than that of the water being filtered, more preferably with a total dissolved solids reading eighty percent lower than that of the water being filtered, and still more preferably with a total dissolved solids reading ninety five percent lower than that of the water being filtered." Applicant has further stated in the specification that, "purified water may be produced using any suitable purification process, such as reverse osmosis, steam distillation or deionization."

Applicant's invention teaches cleansing Applicant's filter with "purified water," as defined in Applicant's specification. Applicant's invention further teaches a "filtered flowpath" that delivers filtered water to an end use device, as shown in Figure 1 of Appendix A. As filters are incapable of removing dissolved solids from the water, in Applicant's invention, the total dissolved solids reading (TDS) of the water being filtered is substantially identical to the total dissolved solids reading of the filtered water that is delivered to the end use device. Conversely, in Hisada in view of McGowan, the total dissolved solids reading of the water prior to the separation membrane, herein represented with an amount equivalent to that shown in Applicant's summary sketch of Figure 1, as TDS = A, and suspended particles = X, is reduced to TDS < A,

and suspended particles < X, after passing through Hisada's separation membrane. Accordingly, in the Examiner's quest to reconstruct the Applicant's invention, the Examiner has inadvertently altered the Applicant's invention, as well as the type of fluid delivered to Applicant's end use devices. Accordingly, Applicant respectfully asserts that the Examiners combination clearly does not read on the Applicant's invention, as the Examiner's combination fails to create the Applicant's invention. Applicant's invention does not alter the total dissolved solids reading of the filtered water delivered to end use devices, and Hisada in view of McGowan clearly alters the total dissolved solids reading of the water passing through Hisada's membrane, thereby delivering purified water to end use devices. One of ordinary skill in the art will readily recognize that there is a difference between water having a high total dissolved solids reading and water having a high total dissolved solids reading, and accordingly, the United States Patent and Trademark Office has separate classifications for them, specifically subclasses 348 Filters and 652 Hyperfiltration.

As Applicant's arguments have not been persuasive in previous amendments, Applicant is presenting additional materials that explicitly reinforce Applicant's arguments. As presented in Appendix B, Class 210 of the Manual of Patent Classification, United States Patent and Trademark Office, is entitled, "LIQUID PURIFICATION OR SEPARATION," and includes subclasses: 348 Filters and 652 Hyperfiltration (e.g. reverse osmosis, etc.). The CLASSIFICATION DEFINITIONS for each subclass as presented by the United Stated Patent and Trademark Office are provided in Appendix B, and below, as follows:

348 This subclass is indented under the class definition. Apparatus in which constituents of a prefilt (usually solids and liquid) are separated by passing the prefilt through a medium having openings which retain at least one constituent.

650 Filtering through membrane (e.g., ultrafiltration): This subclass is indented under subclass 649. Process in which a liquid is passed through a skinlike barrier which serves to retain dissolved or colloidally suspended matter, passing only those constituents which are, per se, fluid, e.g., solvent.

652 Hyperfiltration (e.g., reverse osmosis, etc.): This subclass is indented under subclass 650. Process in which dissolved material (i.e., including ionic) is removed from a liquid. (1) Note. Reverse osmosis is the usual process for which this subclass provides. See OSMOSIS under the GLOSSARY.

In reviewing the class and subclass definitions, it is clearly evident that differences exist between filters and purification membranes. Filters merely separate out based upon size, and do not alter the total dissolved solids makeup of the liquid, as this process must occur on the molecular level. Alternatively, purification membranes (subclass 650) "retain dissolved or colloidially suspended matter, passing only those constituents which are per se, fluid." Accordingly, Applicant expressly recites that the Examiner's combination of Hisada in view of McGowan clearly alters the total dissolved solids reading as it filters the water, thereby delivering purified water to the Applicant's end use devices. Applicant respectfully asserts that the combination of Hisada in view of McGowan is improper, as the combination clearly alters the total dissolved solids reading of the water passing through Hisada's membrane. Applicant delivers filtered water to Applicant's end use device, not purified water. The delivery of purified water to the end use device is markedly different that the delivery of filtered water to the end use device. Applicant respectfully asserts that Applicant's arguments do have merit, and should be persuasive, as Applicant's invention is designed to deliver filtered water to Applicant's end use devices. Accordingly, Applicant respectfully asserts that Applicant's claims 1, 2, 5-8, 36-38, and

40 are patentable over Hisada in view of McGowan, and respectfully requests that the rejections of claims 1, 2, 5-8, 36-38, and 40 under 35 U.S.C. §103(a) be withdrawn.

Nevertheless, as Applicant's arguments have not been persuasive in previous amendments, Applicant has amended claims 1 and 36 to provide delivery of all filtered water to an end use device. In citing Hisada in view of McGowan, the Examiner has diverted a portion of Hisada's filtered water for use in backflushing Hisada's membrane, thereby delivering only a portion of the filtered water from Hisada's membrane to the end use devices. Applicant respectfully asserts that Claims 1 and 36, as amended, are patentable over Hisada in view of McGowan, as Hisada in view of McGowan clearly diverts a portion of the purified water for use as a backflushing media. Applicant respectfully requests that the rejections of claims 1 and 36 under 35 U.S.C. §103(a) be withdrawn.

Claims 2, 3, 5, 6, 7, and 8 depend from claim 1, and accordingly, the patentability of claims 2, 3, 5, 6, 7, and 8 stands or falls with the patentability of claim 1.

Likewise, claims 37, 38, and 40-42, depend from claim 36, and the patentability of claims 37, 38, and 40-42 lies with the patentability of claim 36.

New claim 43 is a method claim that provides for passing water through a filter to produce filtered water, delivering the filtered water to a purification device, and diverting a portion of the purifed water to the filter, thereby exposing the filter to the purified water. Applicant believes that claim 43 is patentable over Hisada in view of McGowan, as Hisada in view of McGowan clearly does not include both a filter and a purification device, whereby the filtered water is purified and then sent back to the filter, thereby exposing the purified water to the filter. Hisada in view of McGowan clearly teaches only of having only a purification membrane, and therefore cannot anticipate Applicant's new claim 43.

New claim 44 is dependent from claim 43, and provides for backflushing the filter with the diverted purified water. Applicant respectfully asserts that claim 44 is patentable with claim 43 over Hisada in view of McGowan, as Hisada in view of McGowan does not provide both a filter and a purification device.

New claim 45 is drawn to passing water from a water source through a filter and to an end use device, thereby delivering filtered water to an end use device, passing water from the water source through a water purification device, thereby creating purified water, and exposing the filter to the purified water, thereby cleansing the filter. Hisada in view of McGowan teaches of backflushing a purification membrane with purified water, and therefore, cannot anticipate Applicant's new claim 45, that is drawn to exposing a filter to purified water. Applicant respectfully asserts that Applicant's new claim 45 is patentable over Hisada in view of McGowan.

Applicant's new claim 46 depends from claim 45, and provides for backflushing the filter in claim 45 with the purified water. Applicant respectfully asserts that the patentability of claim 46 lies with the patentability of claim 45.

In view of the foregoing, Applicant respectfully requests reconsideration of the rejected claims and consideration of the new claims. Applicant further earnestly solicits early allowance of the subject application.

Respectfully submitted,

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CERTIFICATE OF MAILING

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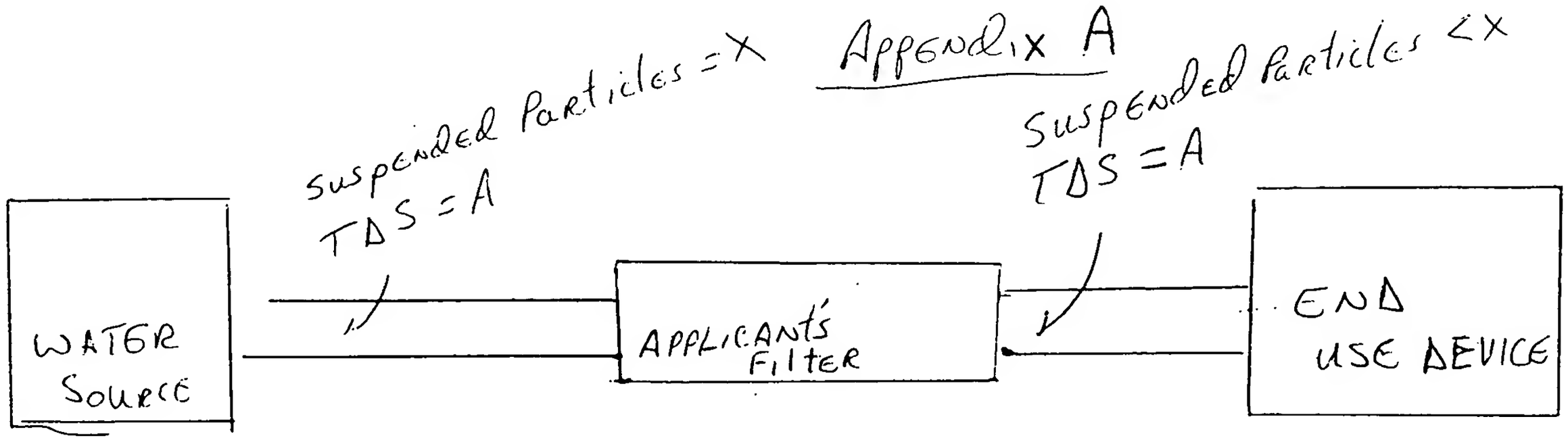
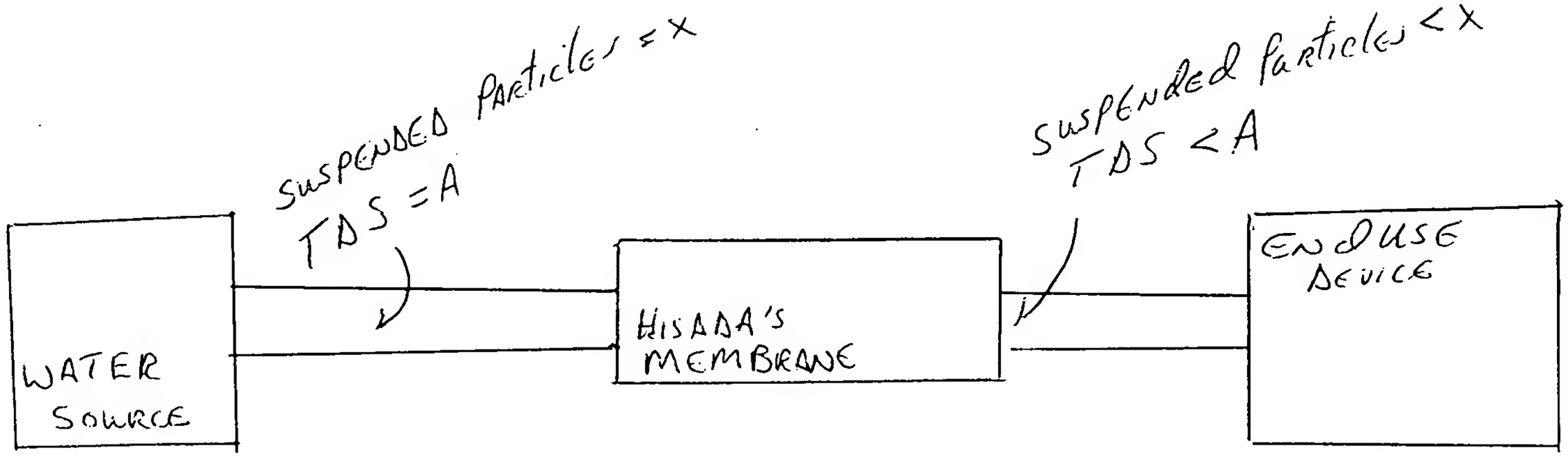


Applicant's Invention



HISADA INVIEW of McGOWAN

Fig. 1

342 This subclass is indented under subclass 323.1. Apparatus wherein the filter units are arranged one within another.

SEE OR SEARCH THIS CLASS, SUBCLASS:
315, for spaced diverse filters, one within another.
337+, for nested filter units arranged for series prefilt flow.

343 This subclass is indented under subclass 323.1. Apparatus in which the units alternate with liquid receivers, alternate receivers acting respectively as liquid inlet and discharge means, at least one of a pair of liquid receivers separating one filter medium from another and contacting the separated filter mediums on opposite faces.

SEE OR SEARCH THIS CLASS, SUBCLASS:
417, for similar devices in which the alternate liquid receivers are located within a continuous body of filter medium.

344 This subclass is indented under subclass 323.1. Apparatus in which each filter unit comprises a filter medium and an imperforate pan-like liquid receiver substantially coextensive with the filter medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:
224, for a sectional chamber press type filter.
492, for stacked dissimilar elements, the entire stack forming a single unit.

345 This subclass is indented under subclass 323.1. Apparatus in which the units are radially arranged or which are connected to means extending radially from a central header.

346 This subclass is indented under subclass 323.1. Apparatus in which the units each comprise a filter medium enclosing a space, the filter medium having separate or distinct walls.

SEE OR SEARCH THIS CLASS, SUBCLASS:
331, for similar structure among movable elements.
486+, for a spaced wall type filter unit.
492, for filter elements divided into alternate prefilt and filtrate spaces by alternately arranged dissimilar elements.

347 This subclass is indented under subclass 346. Apparatus in which there is a header extending centrally of the group of spaced wall type filter elements.

348 This subclass is indented under the class definition. Apparatus in which constituents of a prefilt (usually solids and liquid) are separated by passing the prefilt through a medium having openings which retain at least one constituent.

SEE OR SEARCH CLASS:
4, Baths, Closets, Sinks, and Spittoons, subclass 286 for strainers specialized for that class.
55, Gas Separation, appropriate subclasses beginning with subclass 474 for gas filters.
166, Wells, subclasses 227+ for screens peculiar to wells.
209, Classifying, Separating, and Assorting Solids, subclasses 233+ for sifters for solid material.

349 This subclass is indented under subclass 348. Apparatus provided with means dampening pulsations in liquid flow or for trapping a gas, usually air.

SEE OR SEARCH THIS CLASS, SUBCLASS:
410, for a device which traps a gas and then releases it to blowback a filter medium.

350 This subclass is indented under subclass 348. Apparatus in which a filter medium is enclosed by a receptacle and provided with adjustable or movable means to compress the filtering material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
226, for a sectional pressure type filter and porous filler.

of withdrawing from, or returning to, the body such a fluid.

260, Chemistry of Carbon Compounds, appropriate subclass for a method of obtaining an organic compound from a biological fluid.

424, Drug, Bio-Affecting and Body Treating Compositions, for a composition comprising a biological fluid for treating a body and a process of making such a composition.

436, Chemistry: Analytical and Immunological Testing, subclasses 1+ for a method of testing or analysing a biological fluid.

646 Hemodialysis:
This subclass is indented under subclass 645. Process in which blood is treated or purified.

(1) Note. The process generally duplicates the function of the kidney.

SEE OR SEARCH CLASS:

128, Surgery, for a method of treating blood and a significant step of withdrawing from or returning to a living body the blood being treated.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 44+ for blood oxygenating apparatus; however, combined blood purifying and oxygenating apparatus is in this class (210).

435, Chemistry: Molecular Biology and Microbiology, subclass 2 for a process of oxygenating blood, but the combined process of purifying and oxygenating blood is classifiable in this class (210).

647 Maintaining critical concentration(s):
This subclass is indented under subclass 646. Process in which the amount of at least one constituent of the treated fluid is kept at or between predetermined limits.

(1) Note. The concentration of either the constituent it is desired to remove or of some other constituent is included, e.g., maintaining the potassium level in an artificial kidney process.

648 Including regenerating or rehabilitating the extracting liquid in liquid/liquid solvent or colloidal extraction:
This subclass is indented under subclass 644. Process in which the liquid into which a constituent has migrated from the treated liquid is itself treated to remove such constituent and thereby placed in condition for reuse.

(1) Note. The extracting liquid is sometimes referred to as the dialysizing liquid and usually is recycled.

649 Diffusing or passing through septum selective as to material of a component of liquid:
This subclass is indented under subclass 634. Process in which a constituent of a liquid migrates through a skinlike partition as set forth in the Glossary under Semipermeable membrane.

(1) Note. The process provided for in this subclass is more than filtration or screening to a very fine stage, but includes diffusion of usually a solvent through a material based on the chemical potential of the various materials of the liquid and membrane. A rather complete treatment of the process is given in Kirk-Othmer Encyclopedia of Chemical Technology-Dialysis-Vol. 7 pp. 1-21; and Osmosis, Osmotic Pressure and Reverse Osmosis-Vol. 14, pp. 345-355.

650 Filtering through membrane (e.g., ultrafiltration):
This subclass is indented under subclass 649. Process in which a liquid is passed through a skinlike barrier which serves to retain dissolved or colloidally suspended matter, passing only those constituents which are, per se, fluid, e.g., solvent.

(1) Note. For placement in this subclass, some, but not all, dissolved matter must be retained, e.g., a solute such as protein, soluble synthetic resins or starch may be retained while ionized salts may pass through the membrane. Retention of ionized material is provided for in indented subclasses 652+.

651 **Removing specified material:**
This subclass is indented under subclass 650. Process in which a constituent removed from the liquid is positively identified.

(1) Note. The material itself rather than a characteristic must be identified. For example, oily material, and food waste, or organic are not considered to be identified material; however, protein and named bacteria are considered to be specified material.

652 **Hyperfiltration (e.g., reverse osmosis, etc.):**
This subclass is indented under subclass 650. Process in which dissolved material (i.e., including ionic) is removed from a liquid.

(1) Note. Reverse osmosis is the usual process for which this subclass provides. See OSMOSIS under the GLOSSARY.

653 **Utilizing specified membrane material:**
This subclass is indented under subclass 652. Process reciting named membrane material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
641, for a process using diverse membranes.

654 **Synthetic resin:**
This subclass is indented under subclass 653. Process in which the membrane is constructed of a manufactured polymeric material exhibiting properties similar to those of a natural resin (e.g., film forming).

(1) Note. Synthetic resins, per se, are classified in Class 260, Chemistry of Carbon Compounds, subclasses 201+ (including the 520 series of classes).

655 **Cellulosic:**
This subclass is indented under subclass 653. Process in which the membrane is constituted of a naturally occurring polymeric carbohydrate, usually derived from wood, cotton, or flax.

656 **Chromatography:**
This subclass is indented under subclass 600. Process in which a solid sorbent competes in affinity with a relatively moving carrier liquid or solvent for a constituent such that the constituent is moved through the sorbent at a rate slower than the liquid and determined by the equilibrium or partition coefficient of the liquid-sorbent combination.

(1) Note. The process may separate more than one constituent with different partition coefficients, selectively spacing said constituents in consequence of the differing equilibria in the constituent liquid-sorbent combinations.

(2) Note. The processes provided for in subclasses 633, 634+, 656+, and 660+ utilize similar functions based on relative attraction or repellancy of materials and an explanation of the distinction between the concepts of subclasses 633 and 634+ on the one hand and subclasses 656+ and 660+ on the other hand, is given in the definition of subclass 634.

(3) Note. A process in which a liquid or organic gel acts as a sorbent is a liquid/liquid solvent extraction process and a patent to such a process will be placed in subclass 635. The organic gels exhibit a resilient or plastic property indicative of the underlying liquid nature. Silica gel (inorganic) which has the characteristic of a solid granular mass is not a gel-type sorbent for that subclass (635) and a process using silica gel is classifiable in this or an indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
635, for a liquid/liquid or gel-type chromatography, such as partition chromatography process, and see (2) Note supra.

SEE OR SEARCH CLASS:
73, Measuring and Testing, subclasses 19.02, 23.35+ and 61.43 for a test involving chromatography.
95, Gas Separation: Processes, subclasses 82+ for processes of gas separation using chromatography.